2002 Supplement Turfgrass Management Recommendations Publication 384S

This supplement contains changes/additions/deletions to Publication 384, *Turfgrass Management Recommendations*, released in February, 2000. For complete information, refer to the original publication and include these changes. The OMAF Web site has been changed to *www.gov.on.ca/omaf* to reflect the recent change in the ministry name.

Pesticide Changes/Additions

- Replace all references to Easout 70 WP with Senator 70WP (TABLE 1-1, pg. 4 and TABLE 3-3, pg. 24–25)
- Replace all references to Banner 130 EC and Banner 130 EC7 with Banner MAXX (TABLE 1-1, pg. 4 and TABLE 3-3, pg. 24–25)

Table 1-1. Classification of chemicals registered for turfgrass (page 4)

Trade Name	Pesticide Category	Common Name	LD_{50} (mg active ingredient/kg)	Chemical Family
Banner MAXX	fungicide	propiconazole	5050	sterol inhibitors
Eagle	fungicide	myclobutanil	2090	triazole
Heritage	fungicide	azoxystrobin	>5000	strobilurin
Senator	fungicide	thiophanate-methyl	6640	benzimidazole
Subdue MAXX	fungicide	metalaxyl-M and S-isomer	3436	phenylamide
Avigon	goose repellent	methyl-anthranilate	>10,000	n/a
Primo MAXX	growth regulator	trinexapac-ethyl	>5050	cyclopropyl derivative of cyclohexenone plant growth inhibitor

Table 3-2. Insect Control (page 22-23) Changes are highlighted in Bold

Insect	Control	Rate per $100m^2$	Use enough water for thorough coverage. Follow label directions.
European chafer (*Rhizotrogus majalis*)	diazinon 500 EC	**90 mL**	See comments in Table 3-2 under under European chafer
	diazinon 5G	**0.9 kg**	
	DZN 600 EW	**75 mL**	
Japanese beetle (*Popilla japonica*)	diazinon 500 EC	**90 mL**	See comments in Table 3-2 under Japanese beetle
	diazinon 5G	**0.9 kg**	

	DZN 600 EW	**75 mL**	
White grub	diazinon 500 EC diazinon 5G DZN 600 EW	**90 mL** **0.9 kg** **75 mL**	See comments in Table 3-2 under White grub

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Table 3-3. Disease Control (page 24-25) Changes are highlighted in BOLD.

Disease	Control	Rate per 100m^2	Use enough water for thorough coverage. Follow label directions.
Brown patch, Rhizoctonia blight *(Rhizoctonia solani)*	Heritage*	6 g	Begin application before disease is present (usually late May or June) when conditions favour disease development (high surface moisture or humidity and warm night temperatures). During prolonged periods of favourable conditions apply on the shorter application interval. Application interval ranges from 14–28 days.
	Senator 70WP*	30–60 g	Apply when disease first occurs. Repeat when required (5–7 days). Use minimum of 24L of water. Apply after mowing or avoid mowing for 12 hr after application. When disease pressure is severe, apply at the higher rate.
Cool weather brown patch, yellow patch *(Rhizoctonia cerealis)*	Rovral Green	**125–250 mL**	*See comments in Table 3-3 under Brown patch.*
Dollar Spot *(Sclerotinia homoeocarpa)*	Eagle 40WSP*	15–20 g	Start applications before or immediately after the first signs of disease development and continue on a 14–21 day interval. A tank mix with Daconil, applied on a 21–28 day schedule, is recommended for resistance management. Do not apply more than 4 applications per year. Under conditions optimum for severe disease development, the spray interval should be at the shortest schedule and at the high rate.
	Senator 70WP*	25–30 g	Apply after mowing or avoid mowing for 12 hr after applications. When disease pressure is severe, apply at the higher rate. Alternate or tank mix with another product from another chemical family to minimize the potential of fungicide resistance developing. Repeat every 10–14 days as required.
	Rovral Green	**62 mL**	*See comments in Table 3-3 for dollar spot*
Fusarium patch *(Microdochium nivale)*	Heritage*	6 g	Apply when conditions are favourable for disease development, i.e., extended period of cool (<15.5° C) and wet weather in spring and fall. Apply every 14–28 days when favourable conditions exist.
	Rovral Green	**185 mL**	*See comments in Table 3-3 under Fusarium patch*
Grey snow mould	Heritage*	18–24 g	Apply in late fall before snow cover. Do not

Typhula blight *(Typhula* spp.)	Rovral Green	375 mL	apply on top of snow. Use the higher rate if there is a history of severe snow mould infection on the site.
	Daconil 2787F and Rovral Green tank mix	Daconil 2787F 240mL Rovral Green 120-240mL	Apply prior to snow cover in the fall and repeat in the early spring if conditions for snow mold continue to exist.
Helminthosporium leaf spot/melting out *(Dreschslera* spp.)	Rovral Green	**125 mL**	*See comments in Table 3-3 under Helminthosporium leaf spot*
Pink snow mould *(Microdochium nivale)*	Heritage* Senator 70WP* Rovral Green	18–24 g 125–175 g 250–375 g	Apply in late fall before snow cover. Do not apply on top of snow. Use the higher rate if there is a history of severe snow mould infection on the site.
Powdery mildew *(Erisiphe graminis)*	Senator 70WP*	125–250 g	Apply after mowing or avoid mowing for 12 hr after applications. When disease pressure is severe, apply at the higher rate. Wash Senator 70WP into root zone with 2.5cm of water immediately after application. Repeat every 14–21 days as required.
Pythium blight *(Pythium aphanidermatum)*	Heritage*	12 g	Begin application before disease is present (usually late May or June) when environmental conditions favour disease development, i.e., relative humidity greater than 90% for at least 9 hr, maximum daily temperature of 27.7° C and low temperature of 20° C.
	Subdue MAXX	Established Turf 16–32 mL	As preventative treatment with 10–20 L of water. Re-treat at 10–21 day intervals if required. During periods of prolonged conditions favourable for disease development use on a 7–14 day schedule.
		New Seeded Areas 16–32 mL	In 20–40 L of water. Irrigate with 1–2 cm of water. Re-treat at 7–14 days if conditions remain favourable for disease. Use the lower rate for the shortest interval listed and the higher rate for the longest interval. Under severe disease conditions, use the highest rate and the shortest interval. Do not make more than 3 applications of Subdue MAXX per season.
* Alternate or tank mix with another product from another chemical family to minimize the potential of fungicide resistance developing.			

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Additions

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Canada geese can be a nuisance in turf areas such as golf courses and municipal parks. The product below will discourage geese from feeding on turf. On golf courses, border collie dogs are used to chase

geese off of golf courses properties. This is as a non-chemical alternative to discourage geese from feeding on turf.

Canada Goose Repellent	Application Directions	Comments
Avigon 14.5	Apply 13L/ha. Mix Avigon 14.5 with water at a ration of 1 part product to 19 parts water.	Product is registered for golf courses and municipal parks. Do not mow treated area for as long as possible after treatment. Do not apply when grass is wet or when rain is expected or when temperatures are below freezing. Repeat after 3 days if warranted by Canada goose activity.

Page 31, New Table

Used to reduce grass growth. Turf may turn a light green colour temporarily after initial applications of Primo MAXX. To minimize this, apply Primo MAXX with 0.1–0.25 kg of actual nitrogen per $100m^2$. Do not apply Primo MAXX to turf that has an existing disease infestation.

Table 4-7. Growth Regulation with Primo MAXX

Turf Type	Commercial Sod Farms and Golf Courses, including Rough Areas	Commercial Sod Farms and Golf Course Fairways (Cut at 1.0–1.9 cm)	Golf Course Greens
	mL/100 m^2		
Creeping Bentgrass (*Agrostis stolonifera and palustris*)		8.0	4.0
Tall Fescue (*Festuca arundinacae*)	24		
Kentucky Bluegrass (*Poa pratensis*)	19	8.0	
Perenial Ryegrass (*Lolium perenne*)	32	16	
Mixture (Creeping Bentgrass/Annual Bluegrass) (*Poa annua*)		8.0	4.0
Mixture – Kentucky Bluegrass/Tall Fescue/ Perennial Ryegrass	24		
Mixture – Kentucky Bluegrass/Perennial Ryegrass/Annual Bluegrass		16	

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Seed Changes/Additions

For up to date information about grass seed available in Ontario, please telephone or fax individual turf seed suppliers listed in Table 5-4. pg. 37, for their current seed supply lists.

Changes to Table 5-4, pg. 37

Table 5-4. Ontario Distributors of Turfgrass Varieties

Company	Address	Telephone	Fax
	Box 338,		

Bishop Farm Seeds Ltd	Belleville, ON K8N 5A5	(613) 968-5533	(613) 968-8617
Corland Seeds Ltd.	P.O. Box 336 Guelph, ON N1H 6K5	(519) 763-2059	(519) 763-5192
EroGreen Seed	9446 McLaughlin Rd. N., Unit # 16 Brampton, ON L6X 4H9	(866) 817-7333	(905) 453-1582
Graham Turf Seed	1702 Elm Tree Rd., R.R. # 1, Lindsay, ON K9V 4R1	(705)878-8822	(705) 878-1978
Ontario Seed Company	Box 144, Waterloo, ON N2J 3Z9	(519)886-0557	(519)886-0605
Parsons Seed Ltd.	P.O. Box 280 Beeton, ON L0G 1A0	(905) 729-2202	(905) 729-2623
Pickseed Canada Ltd.	1 Greenfield Rd., Box 304, Lindsay, ON K9V 4S3	(705) 878-9240	(705) 878-9249
ProTurf	39 Monte Vista Trail, Brampton, ON L6Z 2J7	(905) 846-3319	(905) 839-6526
Quality Seeds	8400 Huntington Rd., R.R. # 1 Woodbridge, ON L4L 1A5	(877)-865-SEED	(905) 856-7509
Speare Seeds Ltd.	P.O. Box 171, Harriston, ON N0G 1Z0	(519) 338-3840	(519) 338-2510

Additions to Appendix C, pg. 41

Ontario Ministry of Agriculture and Food Contacts

Agricultural Information Contact Centre
Phone: (877) 424-1300 or (519) 826-4047
Fax: (519) 826-7610
E-mail: ag.info@omaf.gov.on.ca
Address: 1 Stone Road West, Guelph Ontario N1G 4Y2

Provides province wide, toll free technical and business information to commercial farms, agri-businesses and rural businesses.

Government Information Centre

Staff Directories — 1-888-466-2372 or (519) 826-3100

A complete list of Ontario Ministry of Agriculture and Food — Crop Technology Staff is available on our Web site at www.gov.on.ca/OMAFRA/english/crops

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Ontario Ministry of the Environment Pesticide Control Offices

Region County	Pesticides Officer Address	Telephone
Central Region Toronto, Halton, Peel, York, Durham	**Charles Zubovits** **Cathy Wright** 5775 Yonge St, 8th Floor Toronto, Ontario M2M 4J1	(416)326-3671 (416)326-3477 Toll Free 1-800-810-8048 Fax (416)325-6347
West-Central Region Haldimand-Norfolk, Niagara, Hamilton-Wentworth, Dufferin, Wellington, Waterloo, Brant	**Charlie Roland** Ontario Government Building 119 King St. West, 12th Floor Hamilton, Ontario L8P 4Y7	(905)521-7658 Toll Free 1-800-668-4557 Fax (905)521-7820
Eastern Region Frontenac, Hastings, Lennox & Addington, Prince Edward, Leeds & Grenville, Prescott & Russell, Stormont/Dundas & Glengarry , Haliburton, Peterborough, Victoria, Northumberland, Renfrew, Ottawa-Carleton, Lanark, District of Nipissing (Twsps of Airy, Murchison, Dickens, Lyell and Sabine)	**Roberto Sacilotto** **Laurel Grills** 133 Dalton Avenue P.O. Box 820 Kingston, Ontario K7L 4X6	(613)549-4000 ext. 2684 (613) 549-4000 ext. 2702 Toll Free 1-800-267-0974 Fax (613)548-6908
Southwestern Region Elgin, Middlesex, Oxford, Essex, Kent, Lambton, Bruce, Grey, Huron, Perth,Simcoe	**Gary Roberts** 695 Exeter Road, 2nd Floor London, Ontario N6E 1L3	(519)873-5047 Toll Free 1-800-265-7672 Fax (519)873-5020
Northern Region Manitoulin, Nipissing, Parry Sound, Sudbury, Algoma East, Cochrane East, Muskoka	**John Negusanti** 199 Larch Street, Ste 1101 Sudbury, Ontario P3E 5P9	(705)564-3249 Toll Free 1-800-890-8516 Fax (705)564-4180
Kenora, Rainy River, Thunder Bay, Algoma West, Cochrane West, Timmins	**Don Mitchell** 435 James St. S., Suite 331 Thunder Bay, Ontario P7E 6S7	(807) 475-1712 Fax (807) 475-1745
Standards Development Branch	**Pesticides Section** 40 St. Clair Avenue West, 7th Floor Toronto, Ontario M4V 1M2	(416)327-5519 Fax (416)327-2936
Approvals Branch	**Pesticides Licensing** 2 St. Clair Avenue West, 12A Floor Toronto, Ontario M4V 1L5	(416)314-8001 Toll Free 1-800-461-6290 Fax (416)314-8452

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For Your Notes

Each year the appropriate working group of the Ontario Pest Management Research and Services Committee reviews the pesticides listed in this publication. To the best knowledge of the committee, at the time of printing, all of these pesticides were:

- federally registered
- reviewed by the Ontario Pesticides Advisory Committee (OPAC)
- classified by the Ministry of the Environment as of August 2002.

The information in this publication is general information only. By printing this publication, the Ministry of Agriculture and Food does not offer any warranty or guarantee, nor does it assume any liability for any crop loss, animal loss, health, safety or environmental hazard caused by the use of a pesticide mentioned in this publication.

The pesticide product label is a legal document. It is against the law to use the product in any other way. You must also use all pesticides in accordance with the *Pesticides Act* and Regulation 914, administered by the Ontario Ministry of the Environment.

In this publication, most recommendations list several pesticides that can be used for each pest discussed. In general the least hazardous materials and those pesticides that pesticide applicators have used satisfactorily for years are listed first. More toxic pesticides and/or newer ones with less practical grower experience follow.

This publication lists a number of brand names of pesticides. This is for your convenience only. It is neither an endorsement of the product nor a suggestion that similar products are ineffective.

Consult each product label for specific information such as compatibility with other materials and the effect of environmental conditions. Weather and other factors influence the effectiveness of pesticides and the likelihood of crop injury.

Health Canada has established maximum residue limits (MRLs) for pesticides. Processors or retailers may demand more restrictive limits. Growers should seek advice of their intended market as to which restrictions or limitations apply. Keep accurate and up-to-date records on pesticide use in each crop.

Federal Registration of Pesticide Products

The Pest Management Regulatory Agency (PMRA) of Health Canada grants registration following an evaluation of scientific data to ensure that the product has merit and value; and the human health and environmental risks associated with its proposed use are acceptable.

1. **Full Registration**

   Pesticide registrations are normally granted for a period of five years, subject to renewal.

2. **Temporary Registration**

Temporary registration may be granted for a period not to exceed one year, where the registrant agrees to produce additional scientific or technical information, or the pesticide is used for emergency control of a serious pest outbreak.

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Supplemental Labels

You **must** obtain a supplemental label and follow all the label directions when PMRA approves new uses for a registered pesticide that do not appear on the current label.

Examples of when you must use a supplemental label include:

Temporary Registrations for Emergency Use

Minor Use Label Expansion (new label statements for crops that do not already appear on that product label)

You can obtain a copy of a supplemental label from the pesticide manufacturer or pesticide vendor, the

grower association that sponsored the emergency registration or minor use, from OMAF or PMRA's Pest Management Information Service.

For more information on the federal registration status check the PMRA Web site at www.hc-sc.gc.ca/pmra-arla or call 1-800-267-6315.

Regulation of Pesticides in Ontario

Classification of Pesticides into "Schedules"

The Ministry of the Environment classifies all pesticide products into one of six **schedules,** based on the potential hazards that product may have for human health and the environment. For up-to-date information on the regulatory status of any pesticide check the Ontario Pesticides Advisory Committee Web site at www.opac.gov.on.ca or call (416) 314-9230/ fax (416) 314-9237.

Licensing and Certification Requirements for Pesticide Users

You must be a certified grower or licensed exterminator to buy and use Schedule 1, 2 and 5 pesticides.

Requirements for Growers and their Assistants

Growers must be certified through the **Grower Pesticide Safety Course** to buy and use Schedules 1, 2 or 5 pesticides on land they farm. There must be at least one certified grower for each farm operation.

All agricultural assistants must also receive formal pesticide safety training, recognized by the Ministry of the Environment, before they can use Schedule 2 or 5 pesticides under the supervision of a certified grower. This applies to all assistants — including family members, farm employees and seasonal workers.

For more information about training for growers and agricultural assistants check the Ontario Pesticide Education Program Web site at www.ridgetownc.uoguelph.ca/opep or call 1-800-652-8573.

Requirements for Commercial Applicators and their Assistants

If you plan to apply pesticides as a business, you must be a licensed exterminator. **This includes farmers who custom apply pesticides for other farmers and charge a fee for this service**. You must complete a home study course and certification exam, and send proof of certification to the Ministry of the Environment to obtain your license.

Unlicensed assistants must be Technicians before they may handle Schedule 2 (with restrictions), 3, 4 and 6 products under indirect supervision of a licensed exterminator. Technicians may not handle Schedule 1 and 5 products. For more information about exterminators and technicians check the Ontario Pesticide Training and Certification Web site at www.ridgetownc.uoguelph.ca/optc or call 1-888-620-9999.

Cette publication est aussi disponible en français.

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